

REMARKS

Claims 1-34 are pending in the present application. Claims 27-34 are allowed, claims 18 and 19 are objected to, and claims 1-17 and 20-26 are rejected. Claims 1-3, 10 and 13 are canceled and claims 4-8, 11, 14-18 and 26 are amended hereby.

Generally, claim 8 was amended to incorporate the limitations of claim 3, now canceled, and claims 4-7 were amended to depend from the amended claim 8. Similarly, and still generally, claim 14 was amended to incorporate the limitations of claim 13, now canceled. Claim 18 was rewritten in independent form and to include limitations of intervening claims, as is more particularly described herein after.

The drawings were objected to under 37 CFR §1.83(a). More particularly, the Examiner objected to the drawings for failing to show “the flag generating ability, and logic circuitry” of claims 18 and 27. Responsive thereto, Applicant respectfully traverses.

Claim 18 recites in part “a first logic circuit means for creating flag pulses directed from the EFM generator to the ATIP generator” and “a second logic circuit means for creating flag pulses directed from the ATIP generator to the EFM generator”. (*Emphasis Added*). Applicant respectfully submits that the figures show the elements of claim 18, and that therefore the drawings are presently in conformance with 37 CFR §1.83(a).

Applicant respectfully directs the attention of the Examiner to Figure 3A, wherein a first logic circuit 140 is shown interconnected between ATIP generator

120 and EFM generator 130, and a second logic circuit 150 is interconnected between EFM generator 130 and ATIP generator 120. Applicant further respectfully directs the attention of the Examiner to page 10 of the present Specification, wherein it is stated that

“first logic circuit 140 receives from the ATIP generator 120 via a lead 124 timing flag pulses which are sequenced in accordance with the timing function of the ATIP generator 120, and the logic circuit 120 conveys these timing flag pulses to an input of the EFM generator 130 via a lead 142. In addition, the ATIP generator 120 provides to the EFM generator 130 via the logic circuit 140 other pulsed signals, such as, for example, SYNC pulse signals (synchronization pulse signals). A second logic circuit 150 provides a logic communication link between the EFM generator 130 and the ATIP generator 120 via leads 132 and 152, respectively. The logic signals communicated among the ATIP generator 120 and the EFM generator 130 provide so-called flag signals, or flags”.

(Page 10, lines 9-21 of the present Specification, Emphasis Added)

Based on the foregoing, Applicant submits that Fig. 3A, in conjunction with the above-quoted portion of the Specification, shows and sufficiently discloses the subject matter recited in claim 18. Accordingly, Applicant submits that the drawings presently conform to 37 CFR §1.83(a) and respectfully requests withdrawal of the objection.

Claim 27 recites in part “means for generating ATIP flag pulses . . . and means for generating EFM flag pulses” and “a controller . . . receiving flag pulses from the EFM generator and directing such EFM flag pulses to the ATIP generator, and the controller receiving flag pulses from the ATIP generator and directing such ATIP flag pulses to the EFM generator”. *(Emphasis Added)*.

Thus, claim 27 recites, at least in respect to the flag pulses, substantially similar

subject matter to that recited in part by claim 18. For the same reasons given above in regard to claim 18, Applicant respectfully submits that Fig. 3A, in conjunction with the above-quoted portion of the Specification, also shows and sufficiently discloses the subject matter recited in claim 27. Accordingly, Applicant submits that the drawings presently conform to 37 CFR §1.83(a) and respectfully requests withdrawal of the objection.

Responsive to the rejection of claim 10 under 35 U.S.C. §112, second paragraph, Applicant points out that claim 10 is canceled hereby. Accordingly, Applicant respectfully requests withdrawal of the rejection.

Claim 15 was rejected under 35 U.S.C. §112, second paragraph. Responsive thereto, Applicant respectfully traverses.

Claim 15 recites in part “means for modulating an intensity of a laser beam [including] . . . an EFM flag pulse signal provided at another input of the laser”. (*Emphasis Added*). Applicant submits that claim 15 is presently in allowable form.

In rejecting claim 15, the Examiner states that there “is no EFM flag pulse generating element/means positively recited”. Assuming, *arguendo*, that no positive recitation of an EFM flag pulse generating means is made, Applicant submits that claim 15 is nonetheless in allowable form. Applicant has simply claimed that the means for modulating the intensity of the laser beam receives an EFM flag pulse signal at one of its inputs, as shown in the drawings and described in the present Specification. More particularly, Applicant respectfully directs the attention of the Examiner to Fig. 7C and to page 18 of the present

Specification, wherein it is shown and described, respectively, that “[w]hen such flag pulses are present at the lead 136 (226), the EFM driver 138 actuates the laser 1m directly via lead 146 to provide a higher-intensity level in response to such flag pulses so that the intensity-modulated laser beam 4 emanates therefrom”. (*Emphasis Added*).

Based on the foregoing, Applicant submits that claim 15 is definite and does particularly point out and distinctly claim that which Applicant regards as the present invention. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of claim 15.

Claims 1-6 and 11-12 were rejected under 35 U.S.C. §102(b)/(e) as being anticipated by either U.S. Patent No. 6,487,164 (Endoh, et al.) and/or U.S. Patent No. 5,940,364 (Ogata, et al.). Responsive thereto, Applicant points out that claims 1-3 are canceled hereby. Accordingly, Applicant respectfully requests withdrawal of the rejection as applied to claims 1-3. Further, claims 4-6 and 11-12 are amended hereby to depend from claim 8, which is in condition for allowance for reasons provided hereinafter. Accordingly, Applicant submits that claims 4-6 and 11-12 are now in condition for allowance, and respectfully requests same.

Claims 13 and 14 were also rejected under 35 U.S.C. §102(b)/(e) as being anticipated by either U.S. Patent No. 6,487,164 (Endoh, et al.) and/or U.S. Patent No. 5,940,364 (Ogata, et al.). Responsive to the rejection of claim 13, Applicant points out that claim 13 has been canceled hereby. Accordingly, Applicant respectfully requests withdrawal of the rejection as applied to claim 13.

Responsive to the rejection of claim 14, Applicant points out that claim 14 has been amended hereby and submits that the cited references do not anticipate amended claim 14.

In rejecting claim 14, the Examiner states that “there must be a modulation control element/means/system to coordinate signal generation and rotation of the disc in order to yield the final hybrid disc”. However, neither of Endoh, et al., or Ogata, et al. are credited with disclosing such a modulation control element or system. Thus, as best understood by Applicant, the Examiner is basing the rejection of claim 14 on the theory of inherency.

It is certainly well settled that a prior art reference may be relied upon in rejecting claims under 35 U.S.C. §§102 or 103 for what that reference expressly, implicitly and/or inherently discloses. See *In re Napier*, 55 F.3d 610, 34 USPQ2d 1782 (Fed. Cir. 1995) and *In re Grasselli*, 713 F.2d 731, 218 USPQ2d 769 (Fed. Cir. 1983). However, it is equally well settled that “[t]o establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (internal citations omitted).

Claim 14, as amended, recites in part “a laser beam modulation control system including . . . means for controlling temporal relationships between and among the ATIP generator and the EFM generator so that respective ATIP signals and EFM signals are temporally correlated to provide concurrent operation of the intensity- and frequency modulation of the laser beam”.

(*Emphasis Added*). Applicant submits that the cited references do not disclose, inherently or otherwise, such limitations, and that therefore an improper standard of inherency has been applied.

Ogata, et al., as the Examiner concedes, does not expressly disclose a system for coordinating or controlling modulation of the laser beam(s). Further, the Examiner similarly concedes that Endoh, et al., does not expressly disclose a system for coordinating or controlling modulation of the laser beam(s). Thus, the cited references fail to expressly disclose the subject matter of claim 14.

Assuming, *arguendo*, that one or both of the cited references do inherently disclose a system for controlling the modulation of the laser beam(s), the cited references nonetheless fail to expressly or inherently disclose any details concerning such a system. Thus, the references fail to disclose, inherently or otherwise, means for controlling the temporal relationships between and among the ATIP generator and the EFM generator so that their respective signals are correlated to provide concurrent operation of the intensity- and frequency modulation of the laser beam, as recited in part by amended claim 14.

For the foregoing reasons, Applicant respectfully submits that the cited references fail to disclose, inherently or otherwise, the limitations of amended claim 14. Accordingly, Applicant submits that claim 14 is now in condition for allowance and respectfully requests same.

Claims 17, 21 and 22 were also rejected under 35 U.S.C. §102(b)/(e) as being anticipated by either U.S. Patent No. 6,487,164 (Endoh, et al.) and/or U.S. Patent No. 5,940,364 (Ogata, et al.). Applicant respectfully points out that claims

17, 21 and 22 depend from amended claim 14, which is in condition for allowance for the reasons given herein above. Accordingly, claims 17, 21 and 22 are also in condition for allowance, which is hereby respectfully requested.

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,487,164 (Endoh, et al.) in view of U.S. Patent No. 5,940,364 (Ogata, et al.). Responsive thereto, Applicant respectfully points out that claim 5 has been amended to depend from claim 8, which is in condition for allowance for the reasons given herein above. Accordingly, claim 5 is also now in condition for allowance, which is hereby respectfully requested.

Claim 7 was also rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,487,164 (Endoh, et al.) in view of U.S. Patent No. 5,940,364 (Ogata, et al.). Responsive thereto, Applicant respectfully points out that claim 7 has been amended to depend from claim 8, which is in condition for allowance for the reasons given herein after. Accordingly, claim 7 is also now in condition for allowance, which is hereby respectfully requested.

Claim 26 also rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,487,164 (Endoh, et al.) in view of U.S. Patent No. 5,940,364 (Ogata, et al.). Responsive thereto, Applicant respectfully points out that claim 26 has been amended to depend from claim 14, which is in condition for allowance for the reasons given herein above. Accordingly, claim 26 is also now in condition for allowance, which is hereby respectfully requested.

Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,487,164 (Endoh, et al.) in view of U.S. Patent No. 5,940,364

(Ogata, et al.) and further in view of U.S. Patent No. 6,377,518 (Auwens, et al.).

Responsive thereto, Applicant respectfully traverses.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Applicant submits that the cited references fail to disclose or suggest the limitations of claim 8, and that therefore a *prima facie* case of obviousness has not been established in regard thereto.

Claim 8 recites in part “means . . . for projecting the combined radiation beams onto the photoresist layer . . . to form the exposed continuous wobbled groove and a track of exposed depressions along the wobbled groove” and “a laser beam modulation control system for controlling the operation of the first and the second modulator . . . including logic means for temporally correlating drive signals provided to the first and second optical modulators”. (*Emphasis Added*).

As discussed above, neither Endoh, et al., nor Ogata, et al., disclose or suggest a modulation control system nor means for correlating drive signals provided to the modulators. Rather, the Examiner relies upon Auwens, et al., for such a disclosure or suggestion. Applicant respectfully submits, however, that Auwens, et al., also fails to disclose or suggest, alone or in combination with the other cited references, all the limitations of claim 8.

More particularly, Auwens, et al., discloses that a control unit 20 controls the writing of data to sectors on the record carrier. Auwens, et al., discloses that “[t]he data presented to the input of the modulation unit is written to sectors under the control of the unit 20”. (*column 5, lines 36-38, Emphasis Added*). Thus,

Auwens discloses only that control unit 20 controls the process of writing data to sectors. As such, control unit 20 can be considered to be analogous to the means for projecting the beam onto the disc recited in claim 8. In contrast, the present invention provides, in addition to the writing means/control, a laser beam modulation control system that controls the operation of the laser beam modulators and temporally correlates the drive signals provided thereto. Auwens, et al., does not disclose or suggest a laser beam modulation control system, nor does it disclose or suggest a logic means for temporally correlating the drive signals provided to the laser beam modulators. Thus, Auwens fails to disclose or suggest a laser beam modulation control system controlling the operation of the first and the second modulators and including logic means for temporally correlating drive signals provided to the modulators, as recited in part by claim 8.

For the foregoing reasons, Applicant submits that the cited references fail to disclose or suggest, alone or in combination, all the limitations of claim 8. Therefore, a *prima facie* case of obviousness has not been established in regard thereto. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of claim 8.

Claim 9 was also rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,487,164 (Endoh, et al.) in view of U.S. Patent No. 5,940,364 (Ogata, et al.) and further in view of U.S. Patent No. 6,377,518 (Auwens, et al.). Responsive thereto, Applicant respectfully points out that claim 9 depends from claim 8, which is in condition for allowance for the reasons given

hereinabove. Accordingly, Applicant submits that claim 9 is also in condition for allowance and respectfully request same.

Claim 20 was also rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,487,164 (Endoh, et al.) in view of U.S. Patent No. 5,940,364 (Ogata, et al.) and further in view of U.S. Patent No. 6,377,518 (Auwens, et al.). Claim 20 recites in part “wherein the means for controlling [laser beam modulation] temporal relationships include a microprocessor controller”. Thus, at least in regard to the means for controlling laser beam modulation, claim 20 recites subject matter that is substantially similar to the subject matter recited in part by claim 8. For the same reasons given above in regard to claim 8, Applicant submits that claim 20 is also in condition for allowance and respectfully requests same.

In addition to the foregoing reasons, Applicant respectfully points out that claim 20 depends from claim 14, which is in condition for allowance for the reasons given hereinabove. Accordingly, Applicant submits that claim 20 is also in condition for allowance and respectfully requests same.

Claim 24 was also rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,487,164 (Endoh, et al.) in view of U.S. Patent No. 5,940,364 (Ogata, et al.) and further in view of U.S. Patent No. 6,377,518 (Auwens, et al.). Claim 24 recites in part “wherein the ATIP generator and the EFM generator further provide synchronization (SYNC) pulses which periodically synchronize a temporal relationship between the intensity modulation and the frequency modulation along the exposed spiral groove. As discussed

above, the cited references fail to disclose or suggest, alone or in combination, a modulation control system that temporally synchronizes the modulators. Thus, a *prima facie* case of obviousness has not been established in regard to claim 24. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of claim 24.

In addition to the foregoing reasons, Applicant respectfully points out that claim 24 depends from claim 14, which is in condition for allowance for the reasons given hereinabove. Accordingly, Applicant submits that claim 24 is also in condition for allowance and respectfully requests same.

Claims 16 and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,487,164 (Endoh, et al.) in view of U.S. Patent No. 5,940,364 (Ogata, et al.) and further in view of U.S. Patent Nos. 6,377,518 (Auwens, et al.), 5,608,711 (Browne, et al.) and 5,696,758 (Yanagimachi, et al.). Responsive thereto, Applicant respectfully points out that claims 16 and 23 depend from claim 14, which is in condition for allowance for the reasons given hereinabove. Accordingly, Applicant submits that claims 16 and 23 are also in condition for allowance and respectfully requests same.

Claim 25 was rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,487,164 (Endoh, et al.) in view of U.S. Patent No. 5,940,364 (Ogata, et al.) and further in view of U.S. Patent Nos. 6,377,518 (Auwens, et al.), 5,608,711 (Browne, et al.), 5,696,758 (Yanagimachi, et al.) and 6,043,764 (Sannino, et al.). Responsive thereto, Applicant respectfully points out that claim 25 depends from claim 14, which is in condition for allowance for the

reasons given hereinabove. Accordingly, Applicant submits that claim 25 is also in condition for allowance and respectfully requests same.

Claims 18 and 19 were indicated as being allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims, for which courtesy the Examiner is thanked. Applicant has rewritten claim 18 in independent form to include the limitations of its base claim and any intervening claims. Accordingly, Applicant submits that claim 18 is now in allowable form, and respectfully requests allowance of claim 18 and claim 19 depending therefrom.

Applicant further acknowledges the indication that claims 27-34 are allowed.

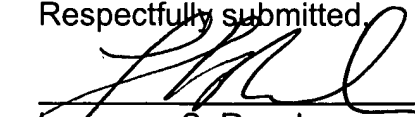
For all the foregoing reasons, Applicant submits that the pending claims are definite and do particularly point out and distinctly claim that which Applicant regards as the invention. Further, Applicant submits that the pending claims are in condition for allowance. Accordingly, Applicant respectfully requests withdrawal of all rejections and allowance of the claims.

In the event Applicant has overlooked the need for an extension of time, an additional extension of time, payment of a fee, or additional payment of a fee, Applicant hereby petitions therefor.

Should the Examiner have any questions or concerns regarding this Amendment or the above-identified Application, the Examiner is invited to telephone the undersigned.

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Date

Respectfully submitted,


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